AMENDMENTS

This listing of claims replaces all prior versions and listings of claims in the application.

1. (Currently amended) A method for filtering a receive signal in a wireless receiver, comprising:

providing a received signal to an amplifier; and

filtering the received signal using a circuit comprising a single frequency dependent negative resistance configured to realize a bi-quad filter electrically isolated from an input of the amplifier such that noise contributed by the ~~filter~~ circuit is blocked from an output of the amplifier at a first frequency, wherein filtering at the first frequency is performed ~~by applying~~ via a single voltage-to-current conversion and a single current-to-voltage conversion.

2. (Currently amended) The method of claim 1, wherein noise contributed by the ~~filter~~ circuit is passed to the output of the amplifier only at a frequency other than the first frequency.

3. (Currently amended) The method of claim 1, wherein the ~~filter~~ circuit comprises a frequency dependent negative resistance implemented using a general impedance converter.

4. (Original) The method of claim 3, wherein noise generated by the general impedance converter is blocked from the output of the amplifier at the first frequency.

5. (Original) The method of claim 4, wherein the first frequency is the in-band receive frequency.

6. (Currently amended) A low-noise filter for a wireless receiver, comprising:

an amplifier; and

a ~~filter~~ circuit comprising a single frequency dependent negative resistance implemented using a general impedance converter to realize a bi-quad filter electrically isolated from the amplifier input, the circuit configured such that noise generated by the circuit is prevented from appearing on a received signal at a first frequency, wherein the amplifier and the frequency dependent negative resistance perform a voltage-to-current conversion and a current-to-voltage conversion, respectively at a first frequency.

7. (Previously presented) The low-noise filter of claim 6, wherein the general impedance converter further comprises:

a pair of operational amplifiers arranged such that a non-inverting input of a first amplifier is coupled to an inverting input of a second operational amplifier; and

at least one capacitance configured to prevent noise generated by the pair of operational amplifiers from appearing at an output of the amplifier at the first frequency.

8. (Original) The low-noise filter of claim 7, wherein the first frequency is the in-band receive frequency.

9. (Original) The low-noise filter of claim 8, wherein noise generated by the pair of operational amplifiers appears at the output of the amplifier at a second frequency.

10. (Original) The low-noise filter of claim 9, wherein the second frequency is an out-of-band receive frequency.

11. (Currently amended) A portable transceiver, comprising:

a modulator configured to receive and modulate a data signal;

an upconverter configured to receive the modulated data signal and provide a radio frequency (RF) signal;

a transmitter configured to transmit the RF signal; and

a direct conversion receiver including an amplifier and a filter, the filter comprising a single frequency dependent negative resistance implemented using a general impedance converter to realize a bi-quad filter electrically isolated from the amplifier input and configured such that noise generated by the filter is prevented from appearing on a received signal at a first frequency, wherein the amplifier and the frequency dependent negative resistance perform a single voltage-to-current conversion and a single current-to-voltage conversion.

12. (Previously presented) The portable transceiver of claim 11, wherein the general impedance converter further comprises:

a pair of operational amplifiers arranged such that a non-inverting input of a first amplifier is coupled to an inverting input of a second operational amplifier; and

at least one capacitance configured to prevent noise generated by the pair of operational amplifiers from appearing at an output of the amplifier stage at a first frequency.

13. (Original) The portable transceiver of claim 12, wherein the first frequency is the in-band receive frequency.

14. (Original) The portable transceiver of claim 13, wherein noise generated by the pair of operational amplifiers appears at the output of the amplifier stage at a second frequency.

15. (Original) The portable transceiver of claim 14, wherein the second frequency is an out-of-band receive frequency.

16. (Currently amended) A portable transceiver, comprising:

means for modulating a data signal;

means for upconverting the modulated data signal and provide a radio frequency (RF) signal;

means for transmitting the RF signal;

means for converting a received signal to a baseband signal; and

means for filtering the baseband signal so that noise generated by the filter means is prevented from appearing on the received signal at a first frequency, the means for filtering comprising a single frequency dependent negative resistance configured to realize a bi-quad filter electrically isolated from an input of the amplifier, wherein the means for filtering performs a single voltage-to-current conversion and a single current-to-voltage conversion.

17. (Original) The portable transceiver of claim 16, wherein the first frequency is the in-band receive frequency.

18. (Previously presented) The portable transceiver of claim 17, wherein noise generated by the filter means appears on the received signal at a second frequency.

19. (Original) The portable transceiver of claim 18, wherein the second frequency is the out-of-band receive frequency.

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